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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/720,860	01/02/2001	Nobuaki Hashimoto	108102	8268

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EXAMINER

THAI, LUAN C

ART UNIT	PAPER NUMBER
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2827

DATE MAILED: 04/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/720,860

Applicant(s)

HASHIMOTO, NOBUAKI

Examiner

Luan Thai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 12-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 8-11 is/are rejected.
- 7) ☒ Claim(s) 4-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restriction

1. Applicant's election with traverse of group I, claims 1-11 in Paper No. 8 filed March 25, 2002 is acknowledged. The traversal is on the ground(s) that the product and process patent claims should be prosecuted as part of the same patent application because of the close interrelationship between the product and the process patent claims. This is not found persuasive because these inventions are distinct for the reasons as previously mentioned on Election/Restriction paper dated 02/26/02 and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper. Furthermore, the examiner respectfully submits that searching/examining the Group II method invention in addition to the elected Group I device invention would, in fact, be more than a slight added burden.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

3. Claims 1, 3, and 8-10 rejected under 35 U.S.C. 102(e) as being anticipated by Plepys et al. (6,140,707).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding claims 1, 3, 8 and 9, Plepys et al. teach a semiconductor device comprising: a semiconductor chip 32 on which a plurality of electrodes 36 are formed; a first flexible substrate 50 on which a wiring pattern 62 is formed and on which the semiconductor chip 32 is mounted; a plurality of external terminals 30 electrically connected to the electrodes with the wiring pattern interposed; a second flexible substrate 52 adhered to the first flexible substrate 50 avoiding the semiconductor chip 32; wherein the external terminals 30 are provided to be connected with the wiring pattern via a plurality of through holes formed in the first flexible substrate 50, and wherein the external terminals 30 project from a surface of the first flexible substrate opposite to a surface on which the wiring pattern is formed. Plepys et al. further disclose that electrodes 36 of the semiconductor chip 32 can be electrically connected to the wiring pattern by an anisotropic conductive material having electrically conductive particles dispersed in an adhesive; wherein the first and second flexible substrates are adhered to each other by the anisotropic conductive material, and the anisotropic conductive material is in close contact with a surface of the wiring pattern facing

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the second flexible substrate and edge surface of the wiring pattern (Col. 9, lines 30+ and 45+).

Regarding claim 10, Plepys et al. further teach a circuit board for the semiconductor device, as disclosed by Plepys et al., mounted thereon (Col. 5, lines 33+).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Plepys et al. (6,140,707).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Applicant's claimed structure in claim 11, does not distinguish over the Plepys et al. reference and it has been held that a recitation (e.g., *an electronic instrument having the semiconductor device*) with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987).

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6. Claims 1, 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Degani et al. (5,646,828).

The figures and reference numbers referred to in this office action are used merely to indicate an example of a specific teaching and are not to be taken as limiting.

Regarding claims 1, 2 and 10, Degani et al. teach (specifically see figures 9 and 10) a semiconductor device comprising: a semiconductor chip 81 (82) on which a plurality of electrodes are formed; a first substrate 84 on which a wiring pattern 90' is formed and on which the semiconductor chip 81 (82) is mounted; a second substrate 85 formed to the first flexible substrate 84 avoiding the semiconductor chip 32; a plurality of external terminals 90 electrically connected to the electrodes with the wiring pattern interposed, wherein the first and second substrates 84-85 are the same material and appear to be of substantially the same thickness. Degani et al. further disclose the device being mounted on a circuit board 89. Degani et al. do not explicitly teach the wiring substrates 84-58 are flexible substrates. However, a wiring substrate being flexible is conventional in the semiconductor art as suggest by Degani et al. (Col. 8, lines 10+). It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the wiring substrates 84-58 as flexible substrates since a flexible wiring substrate is conventionally used in semiconductor art, and such application is held to be within a general skill of a worker in the art.

Allowable Subject Matter

7. Claims 4-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is an examiner's statement of reasons for allowance:


The prior arts fail to teach or render obvious a conductive layer which is formed between the first and second flexible substrate, of the same material and of substantially the same thickness as the wiring pattern, and is electrically insulated from the wiring pattern.

9 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luan Thai whose telephone number is (703) 308-1211. The examiner can normally be reached on 7:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (703) 305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Luan Thai
April 22, 2002


DAVID L. TALBOTT
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800